

In the Claims

A complete listing of the claims follows:

1. (Currently amended) A radial reactor for catalytic reaction of gaseous or liquid feed streams comprising

a conventional radial reactor assembly containing a vertical, annular catalyst bed, and

a ring-shaped, vertical layer of material contained within the catalyst bed, wherein the material comprises an active catalyst material contained within a first ring-shaped, vertical layer of the catalyst bed and an inert material contained within a second ring-shaped, vertical layer of the catalyst bed, wherein the active catalyst material is contained within an outer, ring-shaped, vertical layer of the catalyst bed and the inert material is contained within an inner, ring-shaped, vertical layer of the catalyst bed.

2. Canceled

3. (Original) The radial reactor of Claim 1 wherein the layer containing the catalyst material is at least about 4 inches (10 cm) in thickness, when measured radially from a center of the radial reactor.

4. (Original) The radial reactor of Claim 1 wherein the layer containing the catalyst material is from about 6 to about 36 inches (15 cm - 90 cm) in thickness, when measured radially from a center of the radial reactor.

5. (Original) The radial reactor of Claim 1 wherein the layer containing the catalyst material is from about 6 to about 24 inches (15 cm - 60 cm) in thickness, when measured radially from a center of the radial reactor.

6. (Original) The radial reactor of Claim 1 wherein the inert material comprises an alpha alumina, ceramic material or a monolithic structure.

7. (Original) The radial reactor of Claim 1 wherein the overall thickness of the ring-shaped, vertical layer of material contained within the radial reactor is at least about 18 inches (45 cm).

8. (Original) The radial reactor of Claim 1 wherein the overall thickness of the ring-shaped, vertical layer of material is from about 18 inches (45 cm) to about 48 inches (120 cm).

9. (Original) The radial reactor of Claim 1 wherein the active catalyst material comprises a plurality of active catalyst products, at least two of which catalyst products have different performance characteristics.

10 - 13. Canceled

14. (Currently amended) A radial reactor for nonoxidative dehydrogenation of an alkylaromatic feed stream comprising

a conventional radial reactor assembly containing a vertical, annular catalyst bed and

a ring-shaped vertical layer of material contained within

the catalyst bed, wherein the material comprises a nonoxidative dehydrogenation catalyst contained within ~~a~~ an outer, ring-shaped, vertical layer of the catalytic material and an inert material contained within an inner ring-shaped, vertical layer of the catalyst bed.

15. (Original) The radial reactor of Claim 14 wherein the layer containing the catalyst material is at least about 4 inches (10 cm) in thickness, when measured radially from a center of the radial reactor.

16. (Original) The radial reactor of Claim 14 wherein the layer containing the catalyst material is from about 6 to about 36 inches (15 cm - 90 cm) in thickness, when measured radially from a center of the radial reactor.

17. (Original) The radial reactor of Claim 14 wherein the inert material comprises an alpha alumina or ceramic material.

18 - 25. (Canceled)

Claim Amendments

Claim 1 has been amended to incorporate the limitations of Claim 2 into Claim 1, whereby the annular catalyst bed is divided into an outer ring-shaped and an inner ring-shaped, wherein the outer ring-shaped vertical layer of the catalyst bed contains active catalyst material and the inner ring-shaped vertical layer contains an inert material. No new subject matter is introduced by this Amendment as the applicants are incorporating the limitations of Claim 2 into Claim 1. Claims 10 through 13 are cancelled as they are duplicates of some of the claims, as amended. A minor amendment is made to Claim 14 pursuant to the suggestion of the Examiner. Claims 18 through 25 are canceled as they are directed to non-elected claims.